

Name: \_\_\_\_\_  
A2CC1: Review Sheet for Quarter 1 Exam 3

Date: \_\_\_\_\_  
Due Friday 10/27

**Please show all work on a separate piece of paper. This review sheet is NOT comprehensive. It is merely a sampling of questions from topics that we have covered. Please go over all notes, homework assignments, and old exams to fully prepare. Exam 3: Monday, October 30<sup>th</sup>**

1. Solve for  $x$ :  $32^x = 8$
2. Subtract  $(-4 - 2i)$  from  $(6 + 9i)$ , and express answer in  $a + bi$  form.
3. Find the product of  $(-3 + 6i)$  and  $(3 + 5i)$ .
4. Solve for  $y$ :  $4y^{\frac{2}{3}} - 5 = 20$
5. Express in simplest radical form in terms of  $i$ :  $2\sqrt{-196} - 3\sqrt{-225}$
6. Write as a power of  $i$  in simplest terms:  $i^{2001}$
7. Solve for  $x$ :  $\left(\frac{1}{3}\right)^{1-x} = 9$
8. Write  $a^{\frac{2}{5}}$  using radicals

For questions 9-14 express each in simplest radical form

9.  $\sqrt{90} + \sqrt{40}$
10.  $\sqrt{98} - 2\sqrt{18}$
11.  $2\sqrt{5} \cdot \sqrt{15}$
12.  $\frac{6\sqrt{60}}{24\sqrt{3}}$
13.  $\sqrt{3}(2\sqrt{27} - \sqrt{6})$
14.  $(2 + \sqrt{5})(3 - \sqrt{5})$

For 15 -17, simplify the expression and eliminate any negative exponent(s).

15.  $(12x^4y^2)^2 \left( \frac{x^5y}{2} \right)$

16.  $(rs)^3(2s)^{-2}(4r)^4$

17.  $\frac{a^{-3}b^4}{a^{-5}b^5}$

For 18 and 19, evaluate each expression.

18.  $(-32)^{\frac{2}{5}}$

19.  $\left( \frac{25}{64} \right)^{-\frac{3}{2}}$

20. Simplify:  $\frac{\sqrt{2a^3b}}{\sqrt{6a}}$

21. Simplify:  $2\sqrt{8x^3} + 3x\sqrt{32x} - x\sqrt{18x}$

22. What is  $4x^{\frac{1}{2}}$  written in radical form?

23. Express with rational exponents:  $\sqrt[4]{3x}$

24. Solve:  $(w+1)^{3/2} = 64$

25. Solve for x:  $2x^{2/5} = 32$

26. Solve for y:  $3y^{1/3} - 2 = 4$

27. Solve:  $16^{x-1} = 8^x$

28. What is the value of  $x$  in the equation  $81^{x+2} = 27^{5x+4}$  ?

29. What is the solution set of  $2^{x+1} = 8$ ?

